NATIONAL WEATHER SERVICE, LAS VEGAS NEVADA

The Desert Sun

SKYWARN Spotter Newsletter

Spring 2010

In This Issue

This newsletter serves the following counties:

Nevada: Clark, Lincoln, Nye, Esmeralda

Arizona: Mohave

California: Inyo, San Bernardino

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Spotter News

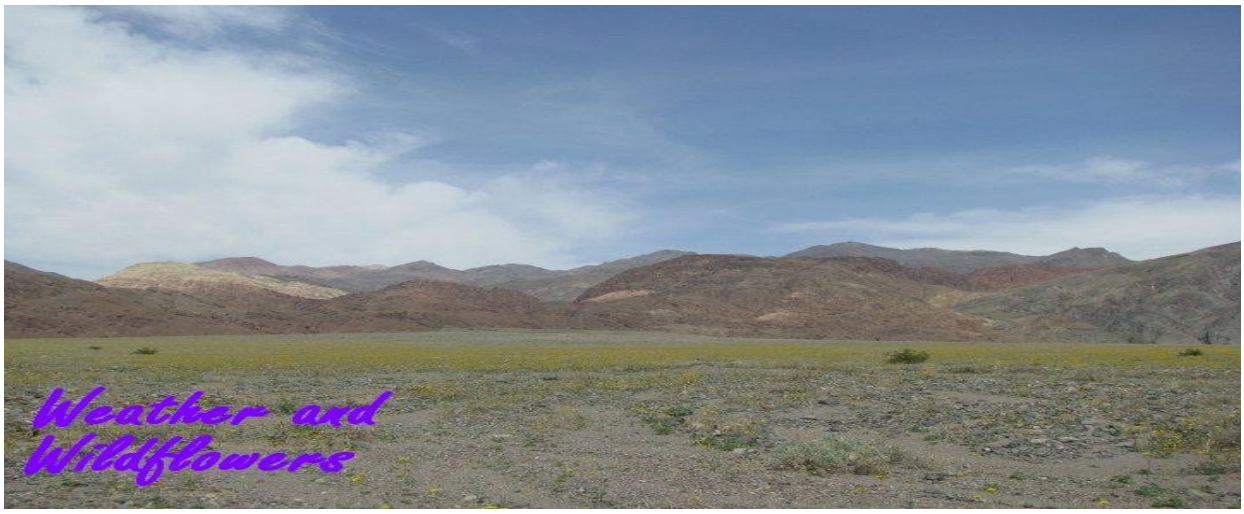
Andy Gorelow, Storm Spotter Coordinator

The 2010 Spotter training season is currently underway and so far we have held training classes in Las Vegas, Pahrump, Needles, Panaca, and Kingman. We have signed up 86 new spotters across the area and have had 187 total people in attendance. We will be heading to Bishop, Moapa, and Morongo Valley within the next couple of weeks and hopefully we can add a significant number to that total. Please remember not to assume that we know what is going on or are getting phone calls from other spotters because any bit of information is important. We also like to receive photos of weather events, past or present, including damage. We currently are placing all photos we receive in a folder and are building a photo library for potential research projects. Remember to include whether or not we can use them in our spotter newsletters, or in spotter training materials. Pictures always add credibility to our warnings, and having that visual is extremely helpful during training. Even the funny pictures (weather related) are nice to get. Also, if you know of certain areas that are prone to flooding, such as intersections or low water crossings, please send me an email. We are trying to put together a database of all these areas which will help us in the future, especially during thunderstorm season. If you have any questions please email me at andy.gorelow@noaa.gov, or call the office at 1-702-263-9744. Thank you for your time and we appreciate your effort, and I look forward to hearing from you this season.

What is the Monsoon?

The word "monsoon" is derived from the Arabic word "mausim" which means season. Ancient traders sailing in the Indian Ocean and the adjoining Arabian Sea used it to describe a system of alternating winds which blow persistently from the northeast during the northern winter and from the opposite direction, southwest, during the northern summer. Thus, the term monsoon actually refers solely to a seasonal wind shift, and not to precipitation.

Even though the term monsoon was originally defined for the Indian subcontinent , monsoon circulations exist in other locations of the world as well, such as Europe, Africa, the west coast of Chile and the United States. During the summer months, winds shift from a west or northwest direction to a south or southeasterly direction. This allows moisture from the Gulf of California and the Gulf of Mexico to stream into the region. This shift in the winds, or monsoonal circulation, produces a radical change in moisture conditions area wide.

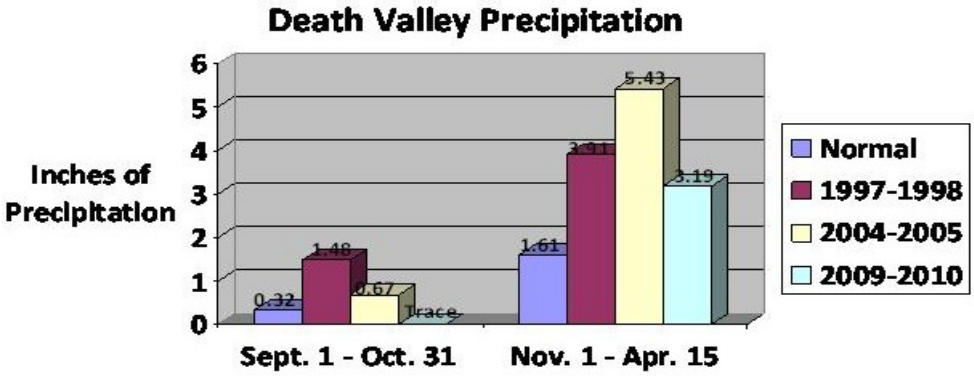


Desert Gold blankets the foothills along Badwater Road in Death Valley on April 14, 2010.

Chris Stachelski
Forecaster

The normally brown and beige desert landscape has been transformed this spring into a much more colorful palette featuring yellows, purples, pinks, whites and greens thanks to wildflowers. While wildflowers can be found in some portion of the Mojave Desert each spring, some years produce a far more spectacular show than others. While some flowers make an appearance each year, others only sprout after just the right combination of conditions takes place in the fall and winter months. Although wildflowers can be found in many areas of the Mojave Desert, one of the most well-known spots is Death Valley National Park. Visiting Death Valley during a spring when the wildflowers are in bloom is a unique way to experience a place renowned for being the hottest and driest in North America.

The spring of 2010 has featured one of the best collections of wildflowers in Death Valley in the last twenty years. While not quite on par with the "once in a lifetime" bloom experienced in the spring of 2005, the wildflower show this year shows how weather plays a key role in the extent of the blooms Death Valley experiences each spring. Both the springs of 2005 and 2010 followed winters that featured above normal precipitation. Normally, between November 1st and April 15th Death Valley receives 1.61 inches of precipitation at Furnace Creek. In both of those years, 5.43 inches and 3.19 inches of rain fell respectively. However, for the rain to be extremely beneficial to the wildflower blooms, the rain needs to fall at a light rate that allows it to wet the ground and soak in. Rain falling at an extremely heavy rate will tend to just run off. In addition, the longer period of time during the winter months that sees rain, the better. Years that feature rain during September and October followed by an active winter with frequent storms moving through during the period between November and April provide enough rain to allow wildflowers to not only sprout but also allow enough water for the plants to grow as rain falls more evenly through the fall and winter months.



El Niño years are noted for often being stormier than normal, especially during moderate to strong events, as the storm track across the western United States is typically further south over southern California into Arizona. This type of pattern often brings wetter storms to the area at a greater frequency. National Park Service Rangers at Death Valley have described the blooms during the springs of 1998 and 2005 to be the best ever. Both of those years were when an El Niño was present and had a wetter than normal cold season (November 1 - April 15) as the graph shows. Early fall rains are also key to a big wildflower bloom. September 1997 was the second wettest September ever in Death Valley with 1.48 inches of rain falling from Tropical Storm Nora. October 2004 was wet due to an active Pacific storm track across California for so early in the season. September and October of 2009, by contrast, only saw a trace of rain with significant rain not falling this past winter until late January.

While a wet winter may suggest a wildflower bloom would be more colorful, there are other important factors that play a critical role in an ideal wildflower bloom. Flowers need warmth and thus sunlight to grow. Many people were surprised this spring when by late March the wildflowers in Death Valley were not as widespread as would be expected after the wetter than normal conditions experienced in January and February. However, the average temperature during the first fifteen days of March 2010 at Furnace Creek was 63.6 degrees – 6.6 degrees cooler than the average temperature of 70.2 degrees experienced during the first fifteen days of March 2005. Thus due to the cooler weather, the lower elevations of Death Valley took until the middle of April in 2010 to reach peak bloom compared to mid-March back in 2005.

Purple Phacelia rise among the brown rock of a mountain along the Beatty Cutoff

Lastly, large areas of wildflowers will last longer if storm systems that move through during the spring do not produce strong winds that dry out plants or blow the petals on flowers away. However, even if the winds fail to do in the flowers, warmer temperatures usually do. Once temperatures begin to approach the triple digits the flowers at elevations below 3,000 feet tend to die off returning the desert back to its more typical earth tones. The seeds left behind during the more active bloom years then sit, waiting for the next wet winter to allow them to flourish once again.

Keep Track Of The Weather With CoCoRaHS

Are you curious as to how much rain or snow fell each time a storm moves through the area? Do you have a rain gauge you frequently check for rain? If so, the National Weather Service in Las Vegas would like to encourage you to join CoCoRaHS, known as the Community Collaborative Rain, Hail and Snow Network. This network allows you to report online how much rain or snow you may have received or even if you saw any hail. Additional comments on the weather in your area that day such as strong winds or storm reports such as flooding can also be submitted. Not only is this information useful to forecasters for verifying forecasts and warnings, but CoCoRaHS also keeps an online record of your reports. This data can then be sorted to compile totals for a given site or see how frequently you received rain or snow in a given time frame. All you have to do to join is visit http://www.cocorahs.org/ and click on "Join CoCoRaHS" on the left sidebar menu and fill out a short form. While we welcome new observers in all of our communities, our office is especially interested in observers on the north side of the Las Vegas Valley, Mt. Charleston, the Laughlin-Bullhead City area, Searchlight, Beatty, anywhere in Esmeralda County, the Kingman/central Mohave County area and the Owens Valley. Please contact Faith.Borden@noaa.gov or Andy.Gorelow@noaa.gov with any questions.

Weather Word Jumble Game

Answers on bottom of page 6

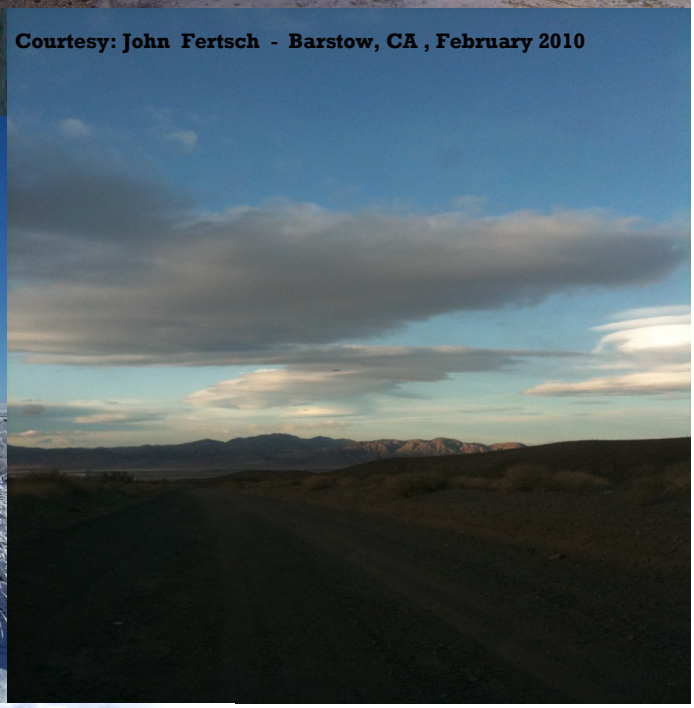
1) **ULODCY**
2) **UTDS EVDLI**
3) **UIDHYMIT**
4) **AREHWTE**
5) **RNDAOOT**
6) **CERRNIUHA**
7) **HGLININTG**
8) **VEOOTIGNRSOH OPT**
9) **LAWL UOLCD**
10) **TURORCMIBS**

Storm Spotter Photo Page

Courtesy: Bob Connors (CA-113) Yucca Valley, CA

Courtesy: Amanda Kaufman - North Bank St., Kingman, January 2010

Courtesy: Amanda Kaufman - Snow in Kingman, AZ February 2009



Courtesy: John Fertsch - Barstow, CA , February 2010

Courtesy: Theresa Langlois (CA-167) Blowing Dust, Near Twentynine Palms - February 2010

I would like to thank all the Spotters who sent in pictures these past few months. I am hoping to use as many as I can, but if you don't see your photo here, it may be used in the Spotter Training Course. Thanks again for all your efforts and we enjoy receiving your photos.

CONVERTING TRADITIONAL HAIL SIZE DESCRIPTIONS

Traditional object-to-size conversion for assessment and translation of severe hail reports. The National Weather Service encourages *measurement*, not estimation, of hail size.

HAIL SIZE (in.)	OBJECT ANALOG REPORTED
.50	Marble, moth ball
.75	Penny
.88	Nickel
1.00	Quarter (Start of Severe Hail)
1.25	Half dollar
1.50	Walnut, ping pong
1.75	Golf ball
2.00	Hen egg
2.50	Tennis ball
2.75	Baseball
3.00	Tea cup
4.00	Grapefruit
4.50	Softball

Remember to report the largest hail stone seen.

The largest hail stone ever recorded in the United States fell in Aurora, Nebraska on June 22, 2003. This hail stone had a circumference of 18.75 inches and was 7 inches in diameter. The total weight of the hail stone was just under 1 pound.

Weather Game Answers

1) CLOUDY
2) DUST DEVIL
3) HUMIDITY
4) WEATHER
5) TORNADO
6) HURRICANE
7) LIGHTNING
8) OVERSHOOTING TOP
9) WALL CLOUD
10) MICROBURST